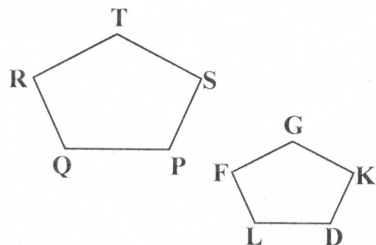


Chapter 6 – Similar Figures

1. Pentagon RTSPQ is similar to pentagon FGKDL. Complete the similarity ratio below.



$$\frac{RT}{FG} = \frac{PS}{DK}$$

2. Solve for x.

$$\frac{5}{8} = \frac{x}{12}$$

$$x = 7.5$$

3. Solve for x.

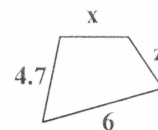
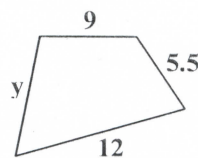
$$\frac{3x-5}{4} = \frac{-5}{7}$$

$$x = \frac{5}{7}$$

4. The ratio of the measures of the sides of a triangle is 6:7:9. The perimeter is 154. Find the sides.

$$x = 7$$

5. The two polygons are similar. Find x, y, and z.



$$x = 4.5$$

$$y = 9.4$$

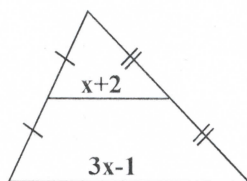
$$z = 2.75$$

6. Explain the difference between similar and congruent.

congruent - SAME
SIZE + SHAPE

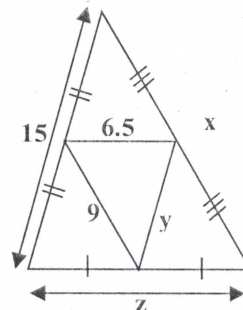
SIMILAR - SAME
SHAPE

7. Solve for x.



$$x = 5$$

8. Find x, y, and z.



$$x = 18$$

$$y = 7.5 \quad z = 13$$

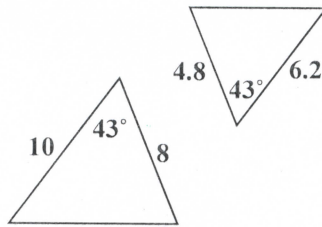
9. What are the three ways to prove that triangles are similar?

$AA \sim$

$SSS \sim$ ALL SIDES PROPORTIONAL

$SAS \sim$ SIDES PROPORTIONAL, ANGLES CONGRUENT

10. Are the triangles similar? If so, by what postulate.

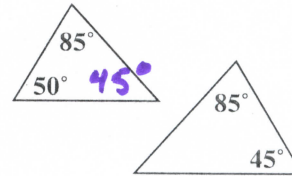


$$\frac{6.2}{10} = .62$$

$$\frac{4.8}{8} = .6$$

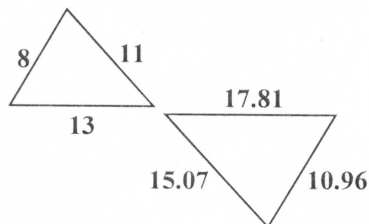
NO

11. Are the triangles similar? If so, by what postulate.



YES $AA \sim$

12. Are the triangles similar? If so, by what postulate.



$$\frac{13}{17.81} = .73$$

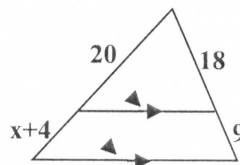
$$\frac{11}{15.07} = .73$$

$$\frac{8}{10.96} = .73$$

YES

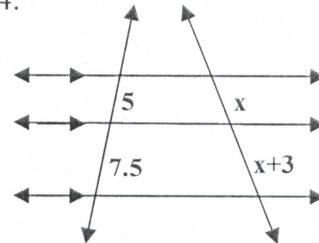
$SSS \sim$

13. Solve for x.



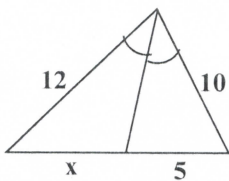
$$x = 6$$

14.



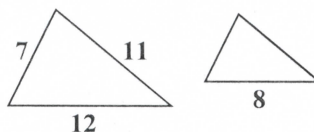
$$x = 6$$

15. Solve for x.



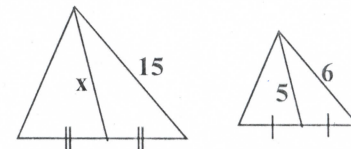
$$x = 6$$

16. The triangles are similar. Find the perimeter of the smaller triangle.



$$P = 20$$

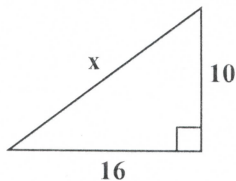
17. The triangles are similar. Solve for x.



$$x = 12.5$$

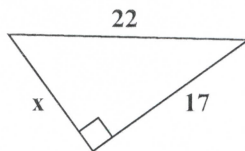
Chapter 7 – Right Triangle Trig

1. Solve for x.



$$x = 18.87$$

2. Solve for x.

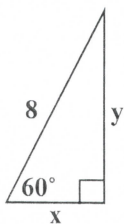


$$x = 13.96$$

3. Can the following be sides of a right triangle? **YES**
Do the numbers form a Pythagorean triple? **NO**

$$4, 4\sqrt{3}, 8$$

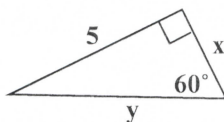
4. Solve for x and y.



$$x = 4$$

$$y = 4\sqrt{3}$$

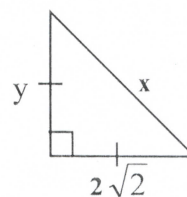
5. Solve for x and y.



$$x = \frac{5\sqrt{3}}{3}$$

$$y = \frac{10\sqrt{3}}{3}$$

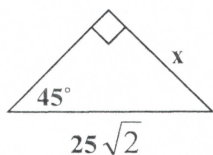
6. Solve for x and y



$$y = 2\sqrt{2}$$

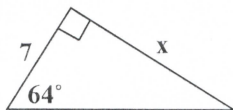
$$x = 4$$

7. Solve for x.



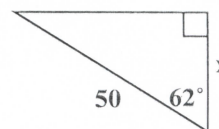
$$x = 25$$

8. Solve for x.



$$x = 14.35$$

9. Solve for x.



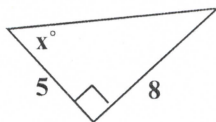
$$x = 23.47$$

10. Solve for x.



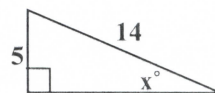
$$x = 51.32^\circ$$

11. Solve for x.



$$x = 57.99^\circ$$

12. Solve for x.

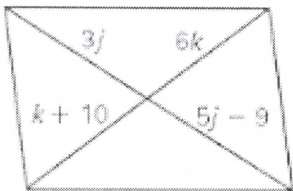
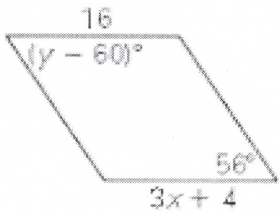
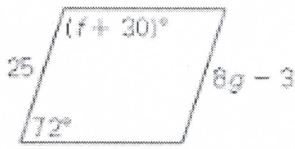


$$x = 20.92^\circ$$

13. A meteorologist measures the angle of elevation of a weather balloon as 41° . A radio signal from the balloon indicates that it is 1503 meters from her location. How high is the weather balloon above the ground?

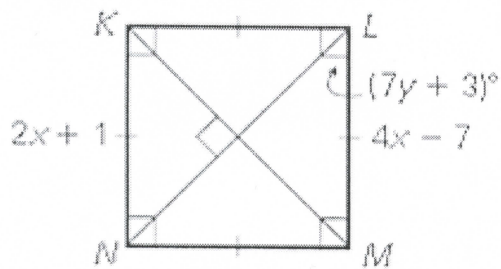
$$h = 986.06 \text{ m}$$

Chapter 8: Properties of Quadrilaterals

<p>1. Find the sum of the interior and exterior angles of a regular octagon.</p> <p>Sum Interior: <u>1080°</u> Sum Exterior: <u>360°</u></p>	<p>2. Find the measure of ONE interior and exterior angle of a regular 20-gon.</p> <p>One Interior: <u>162°</u> One Exterior: <u>18°</u></p>	<p>3. Find the measure of ONE interior and exterior angle of a regular decagon.</p> <p>One Interior: <u>144°</u> One Exterior: <u>36°</u></p>
<p>4. Find the value for the variables in the following parallelogram.</p>  <p>$j = 4.5$ $k = 2$</p>	<p>5. Find the value for the variables in the following parallelogram.</p>  <p>$x = 4$ $y = 116^\circ$</p>	<p>6. Find the value for the variables in the following parallelogram.</p>  <p>$f = 78^\circ$ $g = 3.5$</p>

7. Classify the following quadrilateral and use that information to solve for the variables.

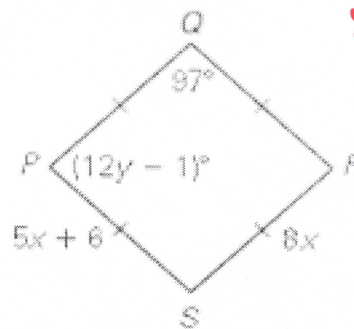
SQUARE



$x = 4$
 $y = 6^\circ$

8. Classify the following quadrilateral and use that information to solve for the variables.

RHOMBUS



$x = 2$
 $y = 7$

9. Name each polygon:

3 sides **TRIANGLE**

8 sides **OCTAGON**

4 sides **QUADRILATERAL**

9 sides **NONAGON**

5 sides **PENTAGON**

10 sides **DECAHON**

6 sides **HEXAGON**

12 sides **DODECAHON**

Chapter 10 - Circles

1. Identify each part of the circle.

a. Name: **CIRCLE A**

g. \overleftrightarrow{HJ} : **TANGENT LINE**

b. \overline{AB} : **RADIUS**

h. Pt. A: **CENTER**

c. \overline{CD} : **CHORD**

i. Pt. E: **POINT OF TANGENCY**

d. \overleftrightarrow{GF} : **SECANT**

j. $\angle BAE$: **CENTRAL ANGLE**

e. \overline{CE} : **DIAMETER**

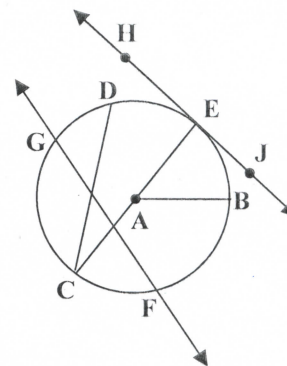
k. $\angle DCE$: **INSCRIBED ANGLE**

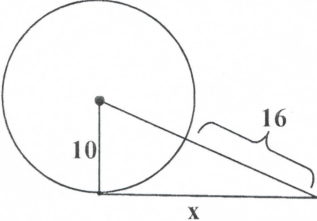
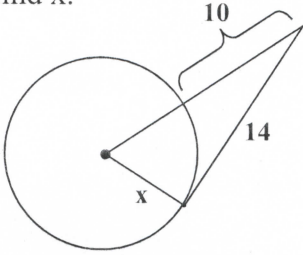
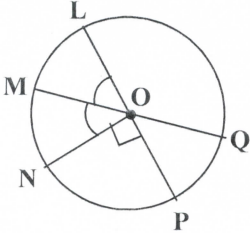
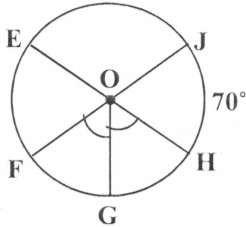
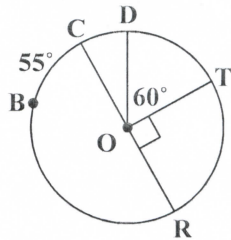
f. \overleftrightarrow{FG} : **SECANT**

l. Arc BF: **MINOR ARC**

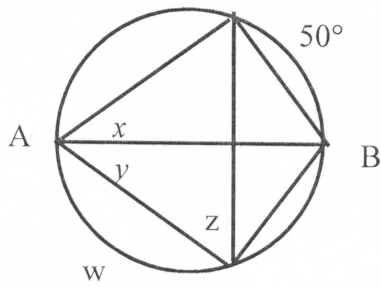
m. Arc BEF: **MAJOR ARC**

n. Arc EGC: **SEMICIRCLE**



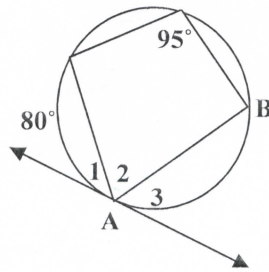
<p>2. The radius of a circle is 6 cm. How long is the diameter?</p> <p>12 cm</p>	<p>3. The diameter of a circle is 15 ft. How long is the radius?</p> <p>7.5 ft</p>	<p>4. The radius of a circle is 13 cm. Find the circumference, in terms of π.</p> <p>26π cm</p>
<p>5. The diameter of a circle is 35 cm. Find the circumference to the nearest tenth.</p> <p>109.9 cm</p>	<p>6. The circumference of a circle is 24π in. What is the radius?</p> <p>12 in</p>	<p>7. The circumference of a circle is 37.7 in. How long is the diameter.</p> <p>12.01 in</p>
<p>8. Find x.</p>  <p>$x = 24$</p>	<p>9. Find x.</p>  <p>$x = 4.8$</p>	<p>10. You are making a circle graph for your project. What is the measure of the central angle for a category that is 37%?</p> <p>133.2°</p>
<p>11. Find each measure.</p>  <p>a. $\angle LOM$: 45° b. arc QP: 45° c. arc PMQ: 315° d. $\angle QOL$: 135° e. arc QLP: 315° f. arc LN: 90°</p>	<p>12. Find each measure.</p>  <p>a. $\angle EOF$: 70° b. arc EJH: 180° c. arc FH: 110° d. $\angle FOG$: 55° e. arc JEG: 235° f. arc HFJ: 290°</p>	<p>13. Find each measure.</p>  <p>a. arc TR: 90° b. $\angle COD$: 30° c. arc BT: 145° d. arc BR: 125° e. arc BTR: 235° f. arc TRB: 215°</p>

14. Solve for the variables



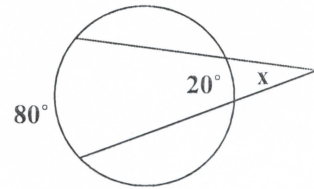
- a. $w =$ _____
 b. $x =$ 25°
 c. $y =$ _____
 d. $z =$ _____

15. Find each angle measure.



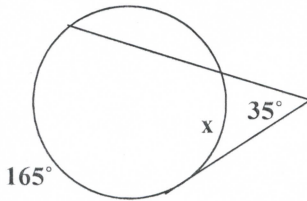
- a. $\angle 1 =$ 40°
 b. $\angle 2 =$ 85°
 c. $\angle 3 =$ 55°
 d. arc AB = 110°

16. Find x.



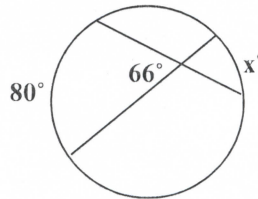
$x = 30^\circ$

17. Find x.



95°

18. Find x.



52°

18. What is the center and the radius of the circle with the equation:

a. $(x-8)^2 + (y+7)^2 = 25$

center: $(8, -7)$

radius: 5

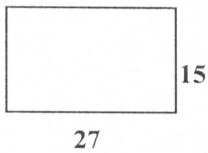
b. $(x+2)^2 + y^2 = 17$

center: $(-2, 0)$

radius: $\sqrt{17} \approx 4.12$

Chapter 11 – Area and Perimeter

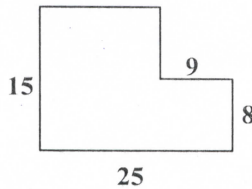
1.



Area: 405 u^2

Perimeter: 84 u

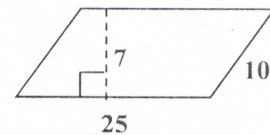
2.



Area: 312 u^2

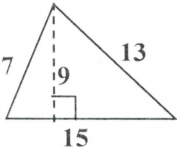
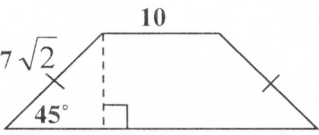
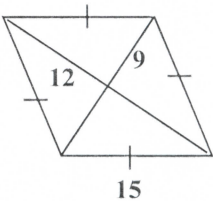
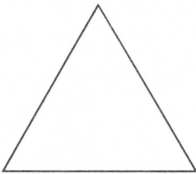

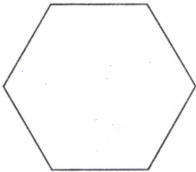
Perimeter: 80 u

3.

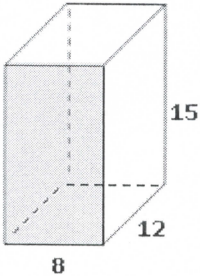
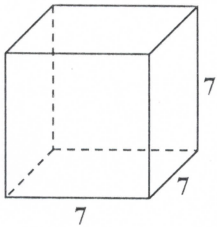
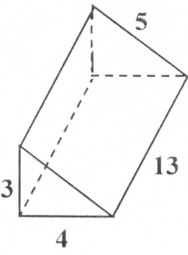
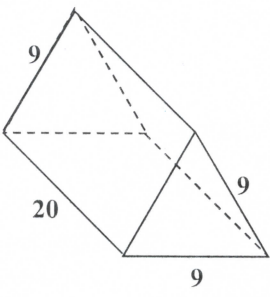


Area: 175 u^2

Perimeter: 70 u

<p>4.</p>  <p>Area: 67.5 u^2</p> <p>Perimeter: 35 u</p>	<p>5.</p>  <p>Area: 119 u^2</p> <p>Perimeter: $34 + 14\sqrt{2} \text{ u}$</p>	<p>6.</p>  <p>Area: 216 u^2</p> <p>Perimeter: 60 u</p>
<p>7. Find the area of an equilateral triangle with a side of 9 cm.</p>  <p>35.07 cm^2</p>	<p>8. Find the area of a square with a side of 8 cm.</p>  <p>64 cm^2</p>	<p>9. Find the area of a regular hexagon with a side of 6 cm.</p>  <p>93.53 cm^2</p>
<p>10. Find the area of a circle with a diameter of 14 cm.</p> <p>$49\pi \text{ cm}^2$ OR 153.86 cm^2</p>	<p>11. Find the area of a regular octagon with a side of 10 ft and an apothem of 12.1 ft.</p> <p>484 ft^2</p>	

Chapter 12 – Surface Area and Volume

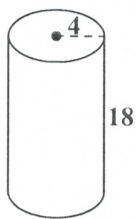
Figure	Lateral Area	Surface Area	Volume
<p>1.</p> 	5520 u^2	7920 u^2	1440 u^3
<p>2.</p> 	196 u^2	294 u^2	343 u^3
<p>3.</p> 	156 u^2	168 u^2	78 u^3
<p>4.</p> 	540 u^2	610.14 u^2	701.40 u^3

LATERAL AREA

SURFACE AREA

VOLUME

5.



$$144\pi u^2$$

or

$$452.16u^2$$

$$176\pi u^2$$

or

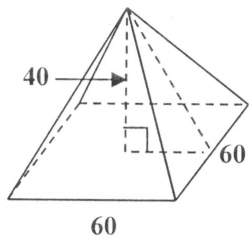
$$552.64u^2$$

$$288\pi u^3$$

or

$$904.32u^3$$

7.

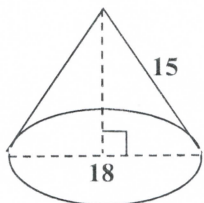


$$6,000u^2$$

$$9,600u^2$$

$$48,000u^3$$

10.



$$135\pi u^2$$

or

$$423.90u^2$$

$$216\pi u^2$$

or

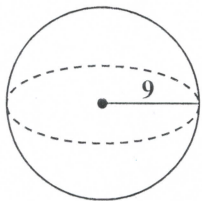
$$678.24u^2$$

$$324\pi u^3$$

or

$$1017.36u^3$$

11.



No
Lateral
Area

$$324\pi u^2$$

or

$$1017.36u^2$$

$$972\pi u^3$$

or

$$3052.08u^3$$